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ACCESSORIES, SOFTWARE

In our large selection of accessories you will discover everything you need to complement your KERN devices in the best way and make your workflows even more efficient.

As well as high-quality printers, interface cables and numerous adapters, you will also find different software solutions and many other products which will guarantee stable performance.

Visit our webshop as well to see the complete range of accessories and get detailed information about each product.



Matrix Needle Printer KERN 911-013

For printing weighing results on normal paper, which is ideal for long-term archiving.

Matrix Needle Printer KERN YKN-01

For printing weighing results on normal paper, which is ideal for long-term archiving.

Technical data

- Needle print
- Speed: 1,8 line/s
- Max. 40 characters per line
- Width of the paper strip: 57 mm wide
- Operation via mains adapter 230 V/50 Hz (standard EU), as standard
- Dimensions housing:
W×D×H 100×180×106 mm
- Not suitable for KERN PNS/PNJ, PES/PEJ ranges
- Interface cable not included with delivery, see Page 185

Price printer without interface cable,
KERN 911-013

Technical data

- Needle print
- Speed: 1 line/s
- Max. 16 characters per line
- Width of the paper strip: 44 mm wide
- Operation via mains adapter 230 V/50 Hz (standard EU/GB/US), as standard
- Dimensions housing:
W×D×H 158×106×40 mm
- Interface cable not included with delivery, see Page 185

Price printer without interface cable,
KERN YKN-01

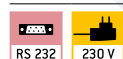
Accessories

- Paper rolls (10 pcs.), KERN 911-013-010
- Universal mains adapter, standard EU/GB/US, KERN ABS-A01

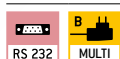
Accessories

- Paper rolls (5 pcs.), KERN YKN-A01

STANDARD



STANDARD



Important note for printer orders:

Please state your balance model when ordering, so that the printer can be preconfigured in the factory to suit your balance.

Individual header data:

For printers **KERN 911-013, YKN-01 and YKE-01** the free software **KERN SHM-01** can be used to print 4 header lines on the printout (see marking on balance).
Compatible models: KERN 440, DE, FCB, PCD.



Thermal Label Printer
KERN YKE-011

Affordable universal label printer to print out weighing results on thermal labels.
ASCII-capable. Comfortable Auto-Forward function for automatic jump from label to label
(only with KERN standard labels).

Technical data

- Thermal print
- Speed: 22 mm/s
- Max. 82 characters per line
- Width of the paper strip:
YKE-A02: 78 mm
YKE-A03: 112 mm
- Operation via mains adapter 230 V/50 Hz
(standard EU/GB/US), as standard
- Dimensions housing:
W×D×H 150×155×65 mm
- Interface cable not included with delivery,
see Page 185
- Note: Please order the matching label roll with it,
see Accessories
- Not suitable for KERN BFS, CCS, CFS,
DAB, DBS, DLB, IFS, KFS-TM, RPB ranges,
counting scales

Price printer without interface cable,
KERN YKE-01

ONLY WHILE STOCKS LAST



Important note for printer orders:

Please state your balance model when ordering, so that the printer can be preconfigured in the factory to suit your balance.

Individual header data:
For printers **KERN 911-013, YKN-01 and YKE-01** the free software **KERN SHM-01**
can be used to print 4 header lines on the printout (see marking on balance).
Compatible models: KERN 440, DE, FCB, PCD.



Tip

EasyTouch Individual Print

The print product (e.g. labels) can be individually designed. The size of the print area as well as the placement of the print elements can be customized. The barcode function enables the printing of each element as a barcode or QR code.
For further details, see *EasyTouch*



Example printouts with ET Individual Print



Dot Matrix Printer
KERN YKG-01

High-quality dot matrix printer

Flexible and rapid dot matrix printer for retail, the catering trade and for restaurant kitchens. To print the weights on normal paper, which is ideal for long-term archiving. This model has an interchangeable interface and you will be impressed by how easy it is to replace the paper and ribbon

Technical data

- Needle print
- Speed: 4,7 line/s
- Max. 42 characters per line
- Supported paper widths:
58 mm, 70 mm, 76 mm (roll)
- Operation via mains adapter 230 V/50 Hz standard EU, as standard
- Interfaces: RS-232, cash drawer connection, bidirectional parallel
- Interface cable not included with delivery, see Page 185
- Dimensions housing
B×T×H 160×248×139 mm
- Not suitable for KERN DAB, DBS, DLB, FKT, RFE ranges

Price printer without interface cable,
KERN YKG-01

Accessories

- Paper rolls (5 pcs.), KERN YKG-A01

Thermal Printer
KERN YKH-01

High-quality thermal printer – fast, robust, user-friendly

Robust, low-maintenance thermal printer for retail, the catering trade and for restaurant kitchens. Extremely compact and long-lasting. Thanks to the waterproof switch cover it is particularly suitable for use under tough, loud environmental conditions

Technical data

- Thermal print
- Speed: 2 line/s
- Max 64 characters per line
- Supported paper widths:
58 mm, 80 mm (roll)
- Operation via mains adapter 230 V/50 Hz standard EU, as standard
- Interfaces: RS-232
- Interface cable not included with delivery, see Page 185
- Dimensions housing
B×T×H 140×199×146 mm
- Not suitable for KERN DAB, DBS, DLB, FKT, RFE ranges

Price printer without interface cable,
KERN YKH-01

Accessories

- Paper rolls (5 pcs.), KERN YKH-A01

STANDARD

RS 232 230 V 1 DAY

STANDARD

RS 232 230 V 1 DAY

Important note for printer orders:

Please state your balance model when ordering, so that the printer can be preconfigured in the factory to suit your balance.

Individual header data:
For printers **KERN 911-013, YKN-01 and YKE-01** the free software **KERN SHM-01** can be used to print 4 header lines on the printout (see marking on balance).
Compatible models: KERN 440, DE, FCB, PCD.

Interface Cable for RS-232

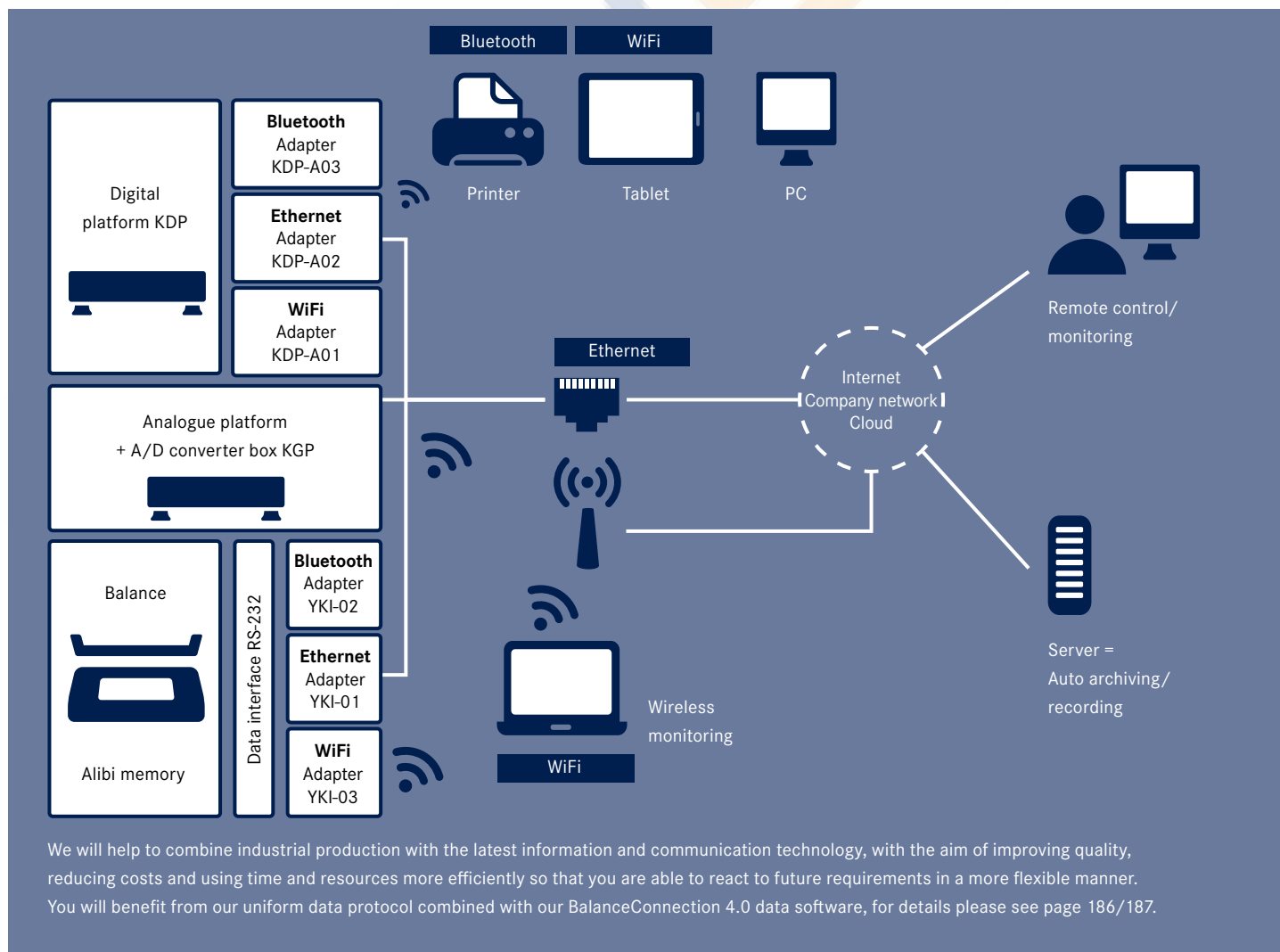
For direct connection to a printer or PC, cable length approx. 1.5 m.
The interface parameters can be set using the balance keypad.

Tip

The interface cable is **free of charge** if you purchase balance, printer or Ethernet-/WiFi-/Bluetooth adapter together.

Printer, ...		▶	PC, YKI-01, -02, -03 KERN	911-013, YKN-01 KERN	YKE-01 KERN	YKG-01, YKH-01 KERN
Balance		▼				
440, 572, 573, ALJ, ALS, ALT-B, DE-D, EMB-V, FKA, FKB, FKC, IKT, KB, PCB, PCD, PLJ, PLS, KDP	CDS, CKE, FCB, DS, FKB-A, (until year of construction 2022)		572-926			
BKN, BXS, IXS, KXS-TM, SXS			KXS-A04 (Factory Option)			
EOC, IOC, BID, KIB-T, KIB-TM, UID			EOC-A12			
YKV-01, KGP			572-926	-		
ABJ-NM, ABS-N			ACS-A01			
BFA, BFB, BFN GAB-N, GAB-P, IFB, KFB-TM, KFN-TM, NFB, NFN (until year of construction 2019)	PFB, SFB, UFA, UFB, UFC, UFN		CFS-A01			
BFS, CPB, EWJ, KFS-TM, PFB, PFB-M			CFS-A01			
CFS, CCS, KFS-TM, IFS (from year of production 2015)			-	CFS-A01	-	-
ABT-NM, PBJ, PBS			770-926			
DBS, DLB			572-926	-		
DAB			MLB-A05	MLB-A05		-
ABP, KFS-T			MLB-A05			
ADB, ADJ, ACS, ACJ, PNS/PNJ			MLB-A05			
HFT			KFF-A01			
EG-N, EW-N			474-926			
PES/PEJ (Interface cable for printer YKB-01: MLB-A05)			CCA-A01			
CCA			CCA-A01			
RFE, RPB (not compatible with YKN-01)			-	CFS-A01	-	CFS-A01
FES/FEJ, PWS			MLB-A05 (PWS-A02)			

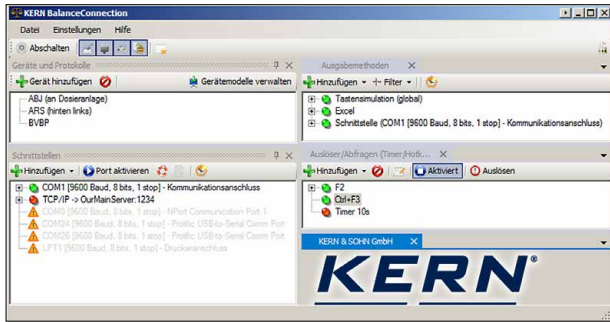
With products from KERN you are ready to face the challenges of Industry 4.0



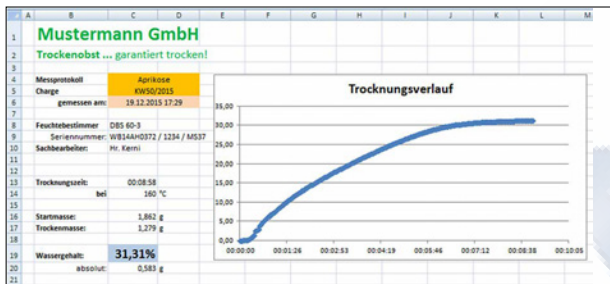
KERN Software BalanceConnection SCD-4.0

	Soll	Ist	Datum / Uhrzeit	Differenz	Abweichung	Gesamt
4	200 g	200,47 g	07.05.2012 12:15	0,47 g	0,23%	200,47 g
5	400 g	411,21 g	07.05.2012 12:15	11,21 g	2,80%	611,68 g
6	1000 g	1.002,39 g	07.05.2012 12:15	2,39 g	0,24%	1.614,07 g
7	5.000 g	4.999,3 g	07.05.2012 12:16	-0,0007 g	-0,01%	1.619,0693 g
8	1.000 g	0,9984 g	07.05.2012 12:16	-0,0016 g	-0,16%	1.620,0677 g

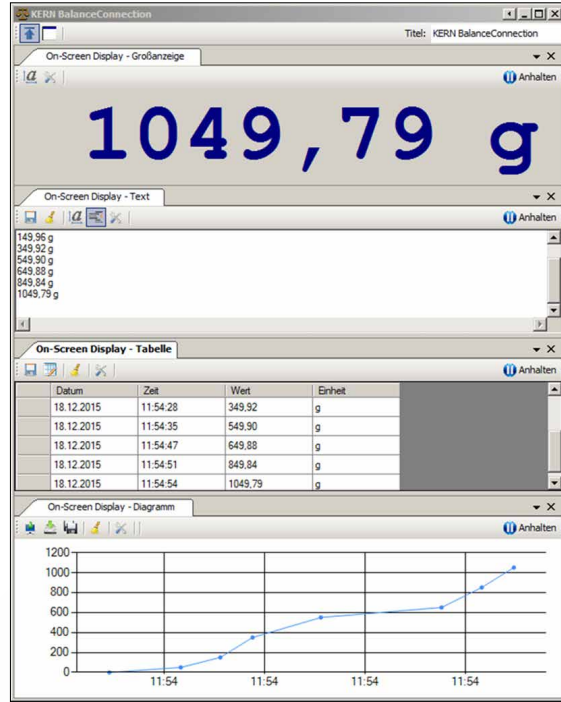
Easy transfer and editing of measuring results e.g. in Microsoft® Excel



Full overview of devices, outputs, queries, interfaces, etc. shown on the output window immediately.



Measurement report with line chart showing a moisture analysis



Different on-screen displays with export function

Tip

Do you have any questions? The team from our Industry 4.0 centre of expertise will be happy to help: e-mail: ITsupport@kern-sohn.com
Or download a free demo version of the BalanceConnection software: <http://balanceconnection.kern-sohn.com/demo>

Flexible recording or transfer of measurements, particularly to Microsoft® Excel or Access

Features

- For operating systems Windows XP, Vista, 7, 8, 8.1, 10, 11
- Supports balances measuring devices with RS 232, RS 485, Bluetooth, LAN or WiFi network (TCP/UDP/IP)
- Highly flexible formatting of the output (any order, formatting and rounding), particularly recording of date and time for every value transferred, if required
- Any number of devices/interfaces can be connected, as well as simultaneous and synchronised recording of several balances
- Key-activated or time-controlled interrogation of measurements or trigger of device functions, also for continuous recording
- The interface protocols for KERN balances are already predefined (standard configuration)
- Compatible interface cable included when you order a KERN balance at the same time

Many different transfer and recording options:

- Microsoft® Excel/Access/Word in the foreground or background
- Other Windows applications (through key simulation), e.g. shipping software or ERP system (SAP, Sage, etc.)
- File recording (e.g. as text or CSV file)
- Print out on text or label printer
- Screen output such as large display, line chart (drying curve for moisture analyser), histogram, etc.

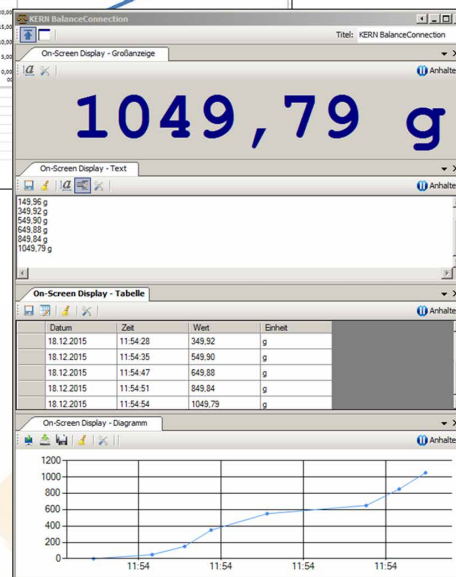
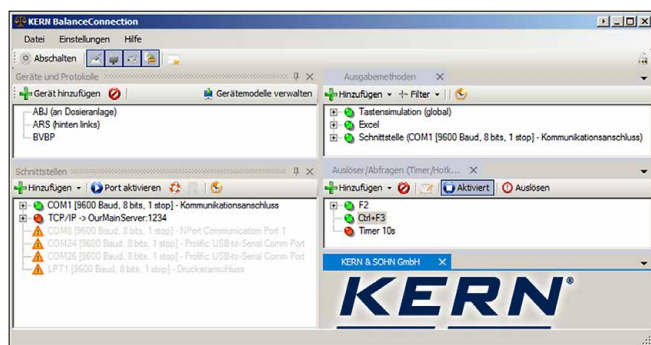
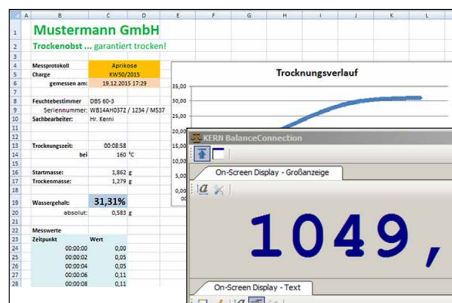
Benefits

- Typing errors during e.g. manual transfer are avoided
- Automatic recording, e.g. for long-term tests
- Supports GLP-compliant processes
- Can be used across different branches and applications
- Also available as a cost-optimised package with 5 licenses, **you save more than 30%!**
- Also available immediately as a download license
- Scope of supplies: 1 CD, 1 license, KERN SCD-4.0
- Scope of supplies: 1 CD, 5 licenses, KERN SCD-4.0S05
- Scope of supplies: Download link for 1 license, KERN SCD-4.0-DL

KERN Software BalanceConnection SCD-4.0 Pro

Rezeptur.xls [Kompatibilitätsmodus] - Microsoft Excel

	Soll	Ist	Datum / Uhrzeit	Differenz	Abweichung	Gesamt
PBJ 4200-2M	Vaseline	200 g	200,47 g	07.05.2012 12:15	0,47 g	0,23%
	Alkohol	400 g	411,21 g	07.05.2012 12:15	11,21 g	2,80%
	Wasser	1000 g	1.002,39 g	07.05.2012 12:15	2,39 g	0,24%
ABJ 80-4M	Dropipizol	5,000 g	4,9993 g	07.05.2012 12:16	-0,0007 g	-0,01%
(kleine Mengen)	Theobromin	1,000 g	0,9984 g	07.05.2012 12:16	-0,0016 g	-0,16%



Professional and highly flexible recording or transmission of measured values, in particular also to Microsoft® Excel or Access

Features

- For operating systems Windows XP, Vista, 7, 8, 8.1, 10, 11
- Supports balances measuring devices with RS 232, RS 485, Bluetooth, LAN or WiFi network (TCP/UDP/IP)
- Highly flexible formatting of the output (any order, formatting and rounding), particularly recording of date and time for every value transferred, if required
- Any number of devices/interfaces can be connected, as well as simultaneous and synchronised recording of several balances
- Key-activated or time-controlled interrogation of measurements or trigger of device functions, also for continuous recording
- The interface protocols for KERN balances are already predefined (standard configuration)
- Compatible interface cable included when you order a KERN balance at the same time
- Many different transfer and recording options:
 - Microsoft® Excel/Access/Word in the foreground or background
 - Other Windows applications (through key simulation), e.g. shipping software or ERP system (SAP, Sage, etc.)
 - File recording (e.g. as text or CSV file)
 - Print out on text or label printer
 - Screen output such as large display, line chart (drying curve for moisture analyser), histogram, etc.

Additional features of the BalanceConnection PRO version:

- ODBC/SQL databases such as SQL Server or MySQL
- Transfer to HTTP Webservices/Web forms
- Histogram
- Enables the connection of medical balances to practice EDP systems using the device data transfer protocol (GDT) and also the HL7 protocol
- Implementation of programs/scripts using freely-definable command lines
- Command sequences
- Defining the conditions for specific events and the reaction to these events
- Filter for stability recognition (configurable value storage)
- Central configuration repository, e.g. on the network
- On-screen displays with configurable user interface for flexible balance operation

Benefits

- Ideal software where weighing data which has been collected needs to be transferred to a Windows PC
- Particularly suitable for professional integration of weighing systems into existing networks where there is a high demand for automated data transfer and further processing, for integration of databases
- Automatic recording, e.g. for long-term tests
- Supports GLP-compliant processes
- Can be used across different branches and applications
- Any number of balances can be used on one PC/workstation per licence
- Also available as a cost-optimised package with 5 licenses, **you save more than 30 %!**
- Also available immediately as a download license
- Scope of supplies:
 - 1 CD, 1 License
- Scope of supplies:
 - 1 CD, 5 Licenses
- Scope of supplies: Download link for
 - 1 License, KERN SCD-4.0-PRO-DL



RS-232/Ethernet Adapter KERN YKI-01

Technical data

Adapter to connect balances, force measuring devices etc. with an RS-232 interface **2** to an IP-based Ethernet network **1**. The adapter allows direct integration of measuring devices into most company networks, with automatic configuration using DHCP or statistical IP allocation. You can access the current measuring data at any time from within the whole network, without having to use additional cables. The adapter supports a wide range of configurational options using the enclosed administration software or by the web interface. The driver delivered with the goods allows you to access the measuring device with existing, non-network-compatible applications using a virtual COM port. Compatible with KERN BalanceConnection software. DIN track mount **3** or free-standing. Scope of delivery: RS-232 Ethernet adapter with 1x Port RS-232 **2**, mains adapter **4**, CD (driver, software, operating instructions), adhesive feet, (interface cable see Page 185),

KERN YKI-01

RS-232/Bluetooth Adapter KERN YKI-02

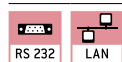
Technical data

Adapter for the wireless connection of balances, force measuring devices etc. with an RS-232 interface to Bluetooth devices, such as Bluetooth printers, tablets, laptops, Smartphones etc. In this way, where there is a physical separation or a large distance between the devices, the weighing data from one or several balances can be easily sent without cable and printed on a Bluetooth printer or transferred to a Bluetooth device (you would need the relevant software on the Bluetooth device, not included with the delivery). The compact adapter with its attractive design can usually be connected directly to the balance **1**, e.g. an additional interface cable would not be necessary. Bluetooth adapter will be powered by the balance (if compatible) or with the mains adapter which is supplied as standard **2**. Range up to 100 m outside, depending on obstacles, such as, walls, the sensitivity and type of antenna of the receiver. Intersections of sending and receiving lines using the DCE/DTE switch **3**. Compatible with KERN Software BalanceConnection.

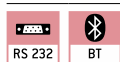
Scope of delivery: RS-232/Bluetooth adapter, mains adapter (EU/GB/US/AUS/CH) **2**, USB-A to Mini-USB-B cable **4**, gender changer **5**, driver CD, (interface cable see Page 185),

KERN YKI-02

STANDARD



STANDARD



Note: To connect to your network, you will need information from your network administrator. We recommend discussing connecting your device into your network with the administrator before you place your order.

Note: If you order a KERN balance at the same time, then the interface cable is free of charge (please specify balance model).



Large Display KERN YKD-A02

Technical data

With superior display size, digit height 3" (76 mm). Luminescent, red LED display for easy reading of weight, even from a distance or under poor lighting conditions. 6 segments, mains connection as standard (230 V, EU/GB), connection using RS-232 data interface, dimensions W×D×H 541×55×180 mm.

Suitable for series IFB, BFB, NFB, UFA, UFB,

KERN YKD-A02



Signal Lamp KERN CFS-A03

Technical data

Signal lamp for visual support of weighing with tolerance range. Three-colour LED, red, green, yellow. Power supply via balance using RS-232. Total dimensions W×D×H 100×180×300 mm

Suitable for series BFB, BFN, BID, CDS, CKE, CPB-N, DS, FCB, FKB, GAB-N, IFB, IFS, IFC, IOC, IXC, KFB-TM, KFN-TM, KIB-TM, NFB, NFN, PCB, SFB, SXC, UFA, UFB, UFC, UFN, 572

KERN CFS-A03



Power Supply Adapter Set KERN YKA-02

Technical data

From standard EU to GB/US/AUS/CH etc. Four pieces. Ideal for devices with Class II protection (not earthed). Ideal for Euro moulded plug,

KERN YKA-02



2nd RS-232 Data Interface KERN CFS-A04

Technical data

Separate Y cable, e.g. for simultaneous connection of a printer and a signal lamp.

Suitable for series BAN, BFB, CFS, CPB-N, GAB-N, IFB, KFB-TM, NFB, NFN, UFN, UFA, UFB, SFB,

KERN CFS-A04



RS-232/USB Adapter KERN AFH 122

Technical data

To connect peripheral devices with USB connection, fits on all balances and measuring instruments with RS-232 port.

Please order the appropriate RS-232 interface cable for your balance at the same time, see table on Page 185

Scope of delivery: Converter cable, CD with driver,

KERN AFH 12



Stand (Tripodal)
KERN YKP-02

Technical data

stable and robust, to elevate display device, stainless steel, height-adjustable, large three-legged adjustable foot, height of stand approx. 750–1000 mm, Factory Option.

Suitable for series BFB, BXS, BFS, BFA, IFS, IFB, KFE-TM, KXG-TM, KXS-TM, KEN-TM, NFB, SFE, UFA, UFB,

KERN YKP-02



Protective Dust Cover
KERN ABS-A08

Technical data

For protection from dust and light (Fig. similar).

Suitable for all KERN analytical balances and precision balances with glass draught shield,

KERN ABS-A08



Tare Pan
KERN RFS-A02

Technical data

Made of stainless steel, which makes cleaning easy and hygienic. Ideal for weighing loose screws, small parts as well as fruit, vegetables, cheese, etc.

- W×D×H 400×300×45 mm
- Net weight approx. 554 g

KERN RFS-A02



Tare Pan with Pan Beam
KERN CH-A01N

Technical data

Made of stainless steel. Ideal for weighing loose small parts as well as fruit, vegetables etc. Max. load 30 kg. Removable tare pan which makes cleaning easy and hygienic.

Suitable for models KERN CH 15K20, HCB 20K10, HDB-N, HDB-XL

- Dimensions: tare pan, \varnothing /H 160×40 mm (dim. outside), 240×40 mm (dim. inside)
- Pan beam: W×D×H 290×240×300 mm 290×240×340 mm (incl. tare pan)
- Total net weight approx. 500 g

KERN CH-A01N



Universal Density Set
KERN YDB-03

Technical data

Universal density set for precise and convenient density determination of liquids and solids $\leq/\geq 1$. Suitable for all current KERN analytical balances. Scope of delivery: Beaker (\varnothing ×H 84×113 mm), thermometer, sample holder, adapter, equalising weights, volume plummet (stainless steel, 20 g), universal submersible basket for solid bodies which float and sink. The wire of the submersible basket has a diameter of 0.5 mm and therefore complies with the requirements of DIN EN ISO 1183-1 (test methods for the determination of density of non-foamed plastics),

KERN YDB-03

Optional:

Density determination of the volume plummet, DAkkS calibration certificate with all data relating to the density and volume, KERN 962-335V



Ioniser to neutralise Electrostatic Charge KERN YBI-01A

Technical data

Goods to be weighed which are non-conductive, such as plastic, china, glass, etc often carry electrostatic charge. The electromagnetic field which then occurs between the goods to be weighed and the balance can cause the weighing result to be distorted by up to a gramme. Therefore, when weighing in milligrammes or even smaller increments, we recommend neutralising the electrostatic charge with the KERN AC-Korona discharge ioniser. With feet supplied with the ioniser, it can be positioned conveniently next to the balance or you can manually direct it from all sides onto a particular item to be weighed.

- Discharge of ozone 0,05 ppm/h
- Total dimensions W×D×H
115×100×60 mm (Adjustable foot retracted),
115×110×80 mm (Adjustable foot folded out)
- Net weight approx. 0,31 kg
- Mains connection 100–240 V, 50/60 Hz,
AC power supply, DC 12 V, 500 mA, output,

KERN YBI-01A



Order Hotline: Go to back page of catalogue



Weighing Table KERN YPS-03

Technical data

The KERN YPS-03 weighing table has been constructed to absorb vibrations and oscillations, which would otherwise distort the weighing result.

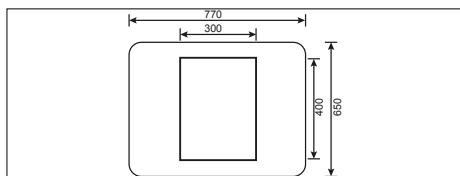
The YPS-03 weighing table consists of:

- a heavy, polished granite slab (24 kg) and is positioned on absorbing rubber components and is used as a surface on which to stand the analytical balance
- a work table, the work surface of which surrounds the slab and offers many storage options. The sturdy powder-coated steel frame has four height-adjustable feet, which can be used to accurately level the weighing table if the floor is at all uneven
- You can work in an ergonomic way at the weighing table whether you are in a standing or seated position. The inlet on the front of the table offers enough space for you to sit down and operate the scale without touching the weighing table.
- All surfaces are hygienic and easy to clean
- Suitable for all KERN analytical balances with total dimensions $\leq W \times D$ 300×400 mm
- Total dimensions W×D×H
785×600×800 mm (Height adjustable)
- Dimensions granite slab, W×D×H
300×400×80 mm
- Net weight approx. 46 kg

Ready for shipping in 2 working days. Dispatch complete on pallet, simple self-assembly. Please ask for dimensions, gross weight, shipping costs,

KERN YPS-03

STANDARD



Anti-vibration Granite Plates KERN YPS-04, -05, -06

Technical data

The KERN YPS-04, -05, -06 anti-vibration granite plates are designed to dampen shocks and vibrations that would otherwise distort the weighing results of high precision Laboratory Scales and analytical balances. Also ideal for vibration-free microscope set-up

- The anti-vibration granite plate is made of polished granite, which is supported on absorbent damping elements
- The anti-vibration granite plate can be used ergonomically while standing or sitting comfortably
- Compact size, practical for small spaces
- All surfaces are hygienic and easy to clean
- Suitable for all KERN analytical balances, precision balances and microscopes with the corresponding dimensions
- Overall dimensions, W×D×H
YPS-04: 400×450×60 mm
YPS-05: 565×450×60 mm
YPS-06: individual dimensions, according to your requirements
- Net weight approx.
YPS-04: 30 kg
YPS-05: 35 kg
YPS-06: on request

Ready for shipping in 2 working days.

Dispatch complete on pallet.

Please ask for dimensions, gross weight, shipping costs,

KERN YPS-04

KERN YPS-05

KERN YPS-06, on request



STANDARD
2 DAYS



Roller Conveyor
KERN YRO-01/ YRO-02/ YRO-03

Through the smooth-running KERN roller conveyor attachments, KERN YRO, you can convert your platform scale into a robust measuring system for rapid and flexible weight determination in conveyor applications.

Especially suitable for use in production and dispatch lines, where time means money. The goods or packages can either be weighed as they pass over the balance or, at fixed stations, heavy goods can easily be pushed onto the scale thanks to the roller conveyor and moved onto the connected roller conveyor.

- **1** Simply connect the roller conveyor attachment to a platform (e.g. KERN IFB, IFC, IFS, IXC, SXC, KBP, KFP) – done!
- Robust aluminium profile frame. The modular design means that you can easily disassemble it for cleaning or to replace individual components
- Smooth-running, hot-dip galvanised steel rollers with ball bearings
- Conductive rollers
- Suitable for use in dry environments
- Roller distance approx. 30 mm
- Direction of movement is lengthways
- Scope of delivery: 1 roller conveyor attachment (without scale)
- We are happy to adapt the roller conveyor to your scale, adjust the preload or switch-on tolerance, etc. Please ask for your individual offer, your personal KERN contact person will be happy to help you

Model	Total dimensions W×D×H	Suitable for platforms with weighing plate sizes W×D	Total net weight approx.
	mm	mm	kg
KERN			
YRO-01	405×305×130	400×300	6
YRO-02	505×405×130	500×400	9
YRO-03	655×505×130	650×500	12

